

## CLAIMS

What is claimed is:

5           1. A method for performing business-related analysis using an electronic data processing apparatus based on an incomplete dataset, comprising:

          providing a model implemented on the electronic data processing apparatus that is based on the incomplete dataset;

          generating a predicted value using the model, wherein the predicted value  
10       contains an error attributed to information that is missing from the incomplete dataset;

          performing a trending operation using trending logic provided by the electronic data processing apparatus to derive a standardized score that pertains to a variance of the predicted value with respect to other predicted values in a specified time interval; and

15           performing a de-trending operation using de-trending logic provided by the electronic data processing apparatus to reduce the error in the predicted value based the standardized score calculated in the trending logic and a consideration of actual values associated with the specified time interval, the de-trending operation yielding an electrical signal representative of an output result.

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          2. The method according to claim 1, wherein the trending operation comprises:

          computing a predicted mean of a collection of predicted values within the specified time interval;

          computing a predicted standard deviation of the predicted values within the  
25       specified time interval; and

computing the standardized score by subtracting the predicted mean from the predicted value to produce a difference, and dividing the difference by the predicted standard deviation.

5           3. The method according to claim 2, wherein the de-trending operation comprises:

          computing an actual mean of the actual values within the specified time interval;

          computing an actual standard deviation of the actual values within the  
10   specified time interval; and

          computing the output result by multiplying the standardized score by the actual standard deviation to produce a product, and adding the actual mean to the product.

          4. The method according to claim 1, further comprising the step of collecting  
15   the dataset from a business operation.

          5. The method according to claim 4, wherein the business operation includes multiple stages.

20           6. The method according to claim 4, further comprising controlling the business operation based on the output result.

7. The method according to claim 1, wherein the incomplete dataset contains at least 30 percent missing information relative to a total population of potential information.

5           8. The method according to claim 1, wherein the business-related analysis pertains to a business operation in which vehicles are leased to customers, and wherein the dataset stores cycle time values that reflect the respective amounts of time for which the customers lease the vehicles.

10           9. The method according to claim 8, wherein missing information from the incomplete dataset corresponds to vehicles that have not yet been returned by respective customers, and thus for which the cycle time values are not yet determined.

15           10. The method according to claim 8, wherein the predicted value pertains to an estimate of when a customer will return a leased vehicle.

11. A computer readable medium including machine readable instruction for implementing the trending and de-trending operations recited in claim 1.

20           12. A method for performing business-related analysis using an electronic data processing apparatus with respect to a stage-based business operation, comprising:

providing a business model implemented on the electronic data processing apparatus that includes multiple sub-models, each sub-model being associated with a respective stage in the stage-based business operation;

performing analysis using a first sub-model provided by the business model based on a first collection of predictors to yield a first electrical signal representative of a first output result; and

5 performing analysis using a second sub-model provided by the business model based on a second collection of predictors to yield a second electrical signal representative of a second output result, wherein one of the second predictors in the second collection of predictors is the first output result provided by the first sub-model.

10 13. The method according to claim 12, wherein the first output result is representative of a probability of success in completing a first stage in the stage-based business operation.

14. The method according to claim 12, wherein the first set of predictors  
15 differs from the second set of predictors.

15. The method according to claim 12, wherein the first sub-model modifies the first set of predictors using a first respective set of constants, and wherein the second sub-model modifies the second set of predictors using a second respective set  
20 of constants.

16. The method according to claim 15, wherein the first set of constants differs from the second set of constants.

17. The method according to claim 15, wherein the first set and/or second set of constants dynamically vary in response to at least one condition affecting the business-related analysis.

5           18. The method according to claim 12, wherein the stage-based business operation pertains to the stage-based processing of loans in multiple successive stages.

19. A computer readable medium including machine readable instruction for implementing the analysis recited in claim 12.

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20. A method for providing information regarding when a specified event is likely to occur within a business using an electronic data processing apparatus, comprising:

15           providing a business model implemented on the electronic data processing apparatus that includes first, second, and third sub-models;

          using the first sub-model to determine whether a specified asset is characterized as a type A asset or a type B asset, wherein:

                  a type A asset is an asset for which the specified event is relatively unlikely to occur; and

20                   a type B asset is an asset for which the specified event may or may not occur;

          using the second sub-model to determine, if the specified asset is determined to be a type B asset, the probability that the specified event will occur for each of a plurality of specified time intervals; and

using the third sub-model to organize electrical signals representative of output results provided by the first and second sub-models, the organized output results conveying information that indicates whether the specified event is likely to occur for the specified asset, and if so, when it will occur.

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21. The method according to claim 20, wherein the first sub-model employs logistic regression to perform its function.

22. The method according to claim 20, wherein the second sub-model employs  
10 survival analysis to perform its function.

23. The method according to claim 20, wherein the third sub-model employs cluster analysis to perform its function.

15 24. The method according to claim 20, wherein the third sub-model classifies the likelihood that the specified event will occur for each of the time intervals into one of at least three categories.

25. The method according to claim 20, wherein the type A asset is a loan  
20 which is determined to have a relatively high probability of going its full term, and a type B asset is a loan which is determined not to have a relatively high probability of going its full term.

26. The method according to claim 25, wherein the use of the second sub-model yields an indication of whether a loan is likely to terminate early within each of the specified time intervals.

5           27. The method according to claim 26, wherein the use of the third sub-model classifies the likelihood of a loan terminating early into one of at least three categories for each of the time intervals, the categories including:

          a first category indicating that there is a high likelihood that the loan will go its full term;

10           a second category indicating that there is neither a high likelihood that the loan will go its full term nor a high likelihood that the loan will terminate early; and

          a third category indicating that there is a high likelihood that the loan will terminate early.

15           28. A computer readable medium including machine readable instruction for implementing the operations of using the first, second, and third sub-models as recited in claim 20.

20           29. An apparatus for performing business-related analysis based on an incomplete dataset, comprising:

          a model that is based on the incomplete dataset, the model configured to compute a predicted value, wherein the predicted value contains an error attributed to information that is missing from the incomplete dataset;

trending logic configured to derive a standardized score that pertains to a variance of the predicted value with respect to other predicted values in a specified time interval; and

de-trending logic coupled to the trending logic and configured to reduce the error in the predicted value based on the standardized score calculated by the trending logic and a consideration of actual values associated with the specified time interval, the de-trending logic yielding an output result.

30. An apparatus for performing business-related analysis with respect to a stage-based business operation, comprising:

a business model that includes multiple sub-models, each sub-model being associated with a respective stage in the stage-based business operation;

wherein a first sub-model includes a transfer function configured to yield a first output result based on a first collection of predictors; and

wherein a second sub-model includes a transfer function configured to yield a second output result based on a second set of predictors, wherein one of the second set of predictors is the first output result produced by the first sub-model.

31. An apparatus for providing information regarding when a specified event is likely to occur within a business, comprising:

a business model that includes first, second, and third sub-models;

wherein the first sub-model is configured to determine whether a specified asset is characterized as a type A asset or a type B asset, wherein:



the type A asset is an asset for which the specified event is relatively unlikely to occur; and

the type B asset is an asset for which the specified event may or may not occur;

5            wherein the second sub-model is configured to determine, if the specified asset is determined to be a type B asset, the probability that the specified event will occur for each of a plurality of specified time intervals; and

             wherein the third sub-model is configured to organize output results provided by the first and second sub-models, the organized output results conveying  
10 information that indicates whether the specified event is likely to occur for the specified asset, and if so, when it will occur.